METHODS AND STRUCTURES OF MULTI-LEVEL COMMA DETECTION AND DATA ALIGNMENT IN DATA STREAM COMMUNICATIONS

ABSTRACT

Methods and structures of performing multi-level comma detection and alignment on an unaligned data stream. Each string of N consecutive bits in the unaligned data stream is monitored for a predetermined byte value. When the predetermined byte value is located, the unaligned data stream is aligned with the predetermined byte value, producing a partially aligned data stream. A string of bytes from the partially aligned data stream is then compared with a predetermined sequence of byte values. When the predetermined sequence is located, the partially aligned data stream is aligned based on the location of the predetermined sequence within the partially aligned data stream. The invention also encompasses multi-level comma detection and alignment circuits that can perform, for example, the previously described inventive methods.